## REMARKS/ARGUMENTS

### I. STATUS OF THE CLAIMS

With entry of this amendment, claim 80 is canceled and claims 85, 90-92, and 98-101 are pending. Claims 85, 90 and 98 are amended, and claims 100 and 101 are newly added. New claims 100 and 101 read on the elected species. Support for the amendments and the new claims can be found throughout the specification, claims and drawings as originally filed, and in the priority documents. No new matter is added with entry of this amendment.

### II. INTERVIEW

Applicants thank Examiner Gross and Examiner Schultz for taking the time to discuss the application with us during the telephonic interview on October 2, 2008. Proposed claim amendments, and support in the specification and the priority documents was discussed. Although no formal agreement was reached, Examiner Gross suggested that the proposed claim amendments would likely overcome the pending rejections. The claim amendments and arguments presented herein are consistent with the discussions during the phone interview.

### III. SUPPORT FOR THE AMENDMENTS AND NEW CLAIMS

Newly added claim 100 is similar in scope to canceled claim 80, but clarifies that the circularly permutated TEM-1 β-lactamase protein comprises an N-terminal fragment having a C-terminus and a C-terminal fragment having an N-terminus, wherein the N- and C- termini are located within the solvent exposed loop between Thr 195 and Ala 202 of the parent β-lactamase protein prior to circular permutation. Support for the claim can be found throughout the instant specification (USSN 09/764,163) filed on January 16, 2001, and in the priority document, (USSN 09/526,106) filed March 15, 2000. Specifically, support for the solvent exposed loop between residues Thr195 and Ala 202 can be found in the instant application and the priority documents as previously identified in the amendment filed on November 16, 2007. Support for discontinuous N- and C-termini can be found for example, in the '106 priority document at page 11, lines 5-10, which states:

> The combined lengths of the N-terminal fragment and the C-terminal fragment may be discontinuous with residues around the break-point deleted, contiguous, or overlapping with residues around the break-point repeated, thereby comprising from 90% to 110% of the total length of the parent protein. Break-point termini are herein defined as the C-terminus of the N-terminal fragment and the N-terminus of the C-terminal fragment. (Emphasis added).

This same language can be found in the instant specification at page 15, lines 10-16.

Newly added claim 101 recites that the C-terminus of the N-terminal fragment and the N-terminus of the C-terminal fragment are residues Glu 197 and Leu 198, respectively. Support for claim 101 as recited can be found throughout the specification and the claims as originally filed. For example, at page 20, lines 16-22 of the instant application. Applicants note that Claim 101 as recited does not read on embodiments having a Glu-Leu dipeptides deletion as alleged on page 5 of the Office Action.

Applicants contend that the claims as recited are fully supported by the passages as indicated above, as well as in the amendment filed November 16, 2007. No new matter is added with entry of this amendment.

## IV. PRIORITY CLAIM

The Examiner has denied Applicant's claim for benefit to the filing date of U.S. provisional App. No. 60/175,968 filed January 13, 2000 and to U.S. pat. App. No. 09/526,106 ('106 app.) filed March 15, 2000, of which the instant application is a CIP. The Examiner alleges that the applicant has not complied with one or more conditions as required for the later filed application to receive benefit of the earlier filed application. In particular, the Examiner alleges that the earlier filed applications, do not provide support for a circularly permutated β-lactamase bearing two break-points and interactor domains bearing thioredoxin peptide sequences. In view of this alleged defect, the instant application is only granted the date of January 16, 2001, for the purposes of prior art concerning claims 80, 85, 90, 91, 92, 98 and 99. Applicants disagree with the Examiner, but in an effort to expedite the prosecution of this application, Applicants have canceled claim 80 and added new claim 100, which does not recite a circularly permutated

polypeptide having two break-points, or interactor domains bearing a thioredoxin peptide sequences.

In light of the claims as amended, Applicants request that the Examiner reconsider the priority claim to at least the parent application, U.S. Pat App. No. 09/526,106, of which the instant application is a CIP.

## V. REJECTIONS UNDER 35 U.S.C. §112, FIRST PARAGRAPH

### A. Enablement

Claims 80, 85, 90, 91, 92, 98 and 99 remain rejected under 35 U.S.C. §112, first paragraph as failing to comply with the enablement requirement. Specifically, the Examiner alleges that although the specification is enabled for a circularly permutated β-lactamase comprising N- and C- interactor domains with a break-point between Glu197 and Leu198, the specification does not provide reasonable enablement for other break-points as set forth in claim 80. Applicants disagree.

Applicants note that claim 80 is canceled with entry of this amendment, rendering the rejection to this claim moot. With regard to newly added independent claim 100, Applicants note that the specification does provide support for discontinuous N- and C- termini as discussed above in Section III.

With regard to claim 85, Applicants note that the claim as currently recited does not read on a Glu-Leu dipeptides deletion as alleged by the Examiner.

In view of the claims as presented, and the arguments set forth above, Applicants request that the Examiner withdraw the rejection.

### B. Written Description

Claims 80, 85, 90-92, 98 and 99 stand rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement. In particular, the Examiner alleges that claim 80 embraces circular permutated β-lactamase which delete various dipeptides, tripeptide, tetrapeptide, pentapeptide, hexapeptide, and heptapeptide sequences between Thr195 and Ala202 of the parent β-lactamase. The Examiner also alleges that claim 80

as previously amended recites interactor domains including members of a thioredoxin peptide library. The Examiner alleges that the application as originally filed provides no explicit or implicit support for circularly permutated β-lactamase mutants or interactor domains bearing small thioredoxin derived peptides. Applicants disagree.

Applicants note that independent claim 80 is canceled with entry of this amendment, rendering the rejection to independent claim 80 moot. Newly added claim 100 recites that the N- and C- termini of the circularly permutated b-lactamase are within the solvent exposed loop between Thr195 and Ala202. The instant specification and at least the '106 priority document provide support for discontinuous or overlapping ends of the circularly permutated β-lactamase protein, as discussed above in Section III.

With regard to the interactor domain including members of a thioredoxin peptide library, Applicants disagree with the Examiner, but in an effort to expedite the prosecution of the application, Applicants have removed this limitation from the claims as presently recited.

In view of the claims as presently recited, and the arguments presented herein, Applicants request that the Examiner withdraw the rejections.

## CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,

/Robert C. Burrows/

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